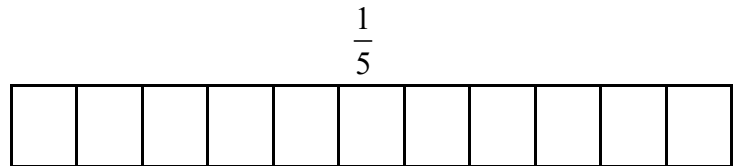
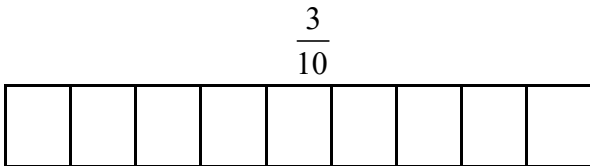


Fraction Assessment Questions

Basic fraction questions:

A. Jasper made a flag for his football team. He painted $\frac{1}{2}$ of the flag blue and $\frac{1}{2}$ of the flag yellow. He added stars to $\frac{1}{3}$ of the blue section. What fraction of the total flag is the blue section with stars?

B. Shade the models below to show $\frac{3}{10}$ and $\frac{1}{5}$.



Place one of the symbols below in the number sentence to compare the fractions

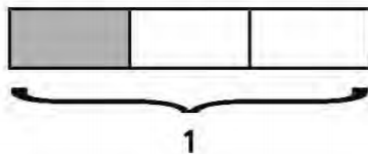
$<, >, =$

$$\frac{3}{10} \square \frac{1}{5}$$

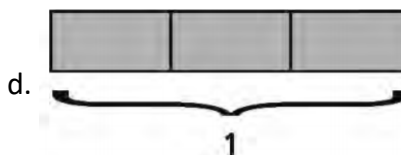
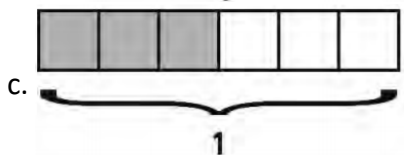
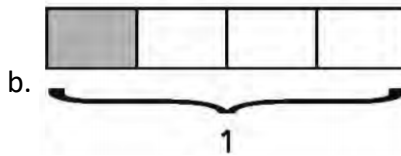
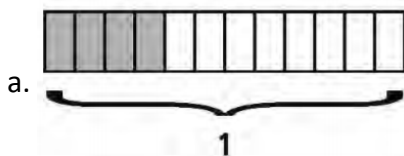
C. Which two fractions both represent the same location on a number line?

- a. $\frac{2}{3}, \frac{1}{5}$ b. $\frac{3}{4}, \frac{6}{8}$ c. $\frac{2}{4}, \frac{3}{5}$ d. $\frac{5}{6}, \frac{5}{8}$

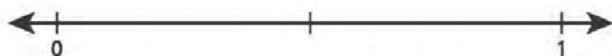
D. The model below is shaded to represent a fraction.



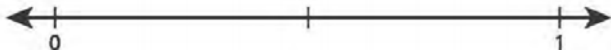
Which model shows an equivalent fraction?



E. Hayley cut pieces of ribbon to make bookmarks. Each bookmark was $\frac{1}{8}$ ft. long. Draw a point at $\frac{1}{8}$ on the number line below and label the point **a**.

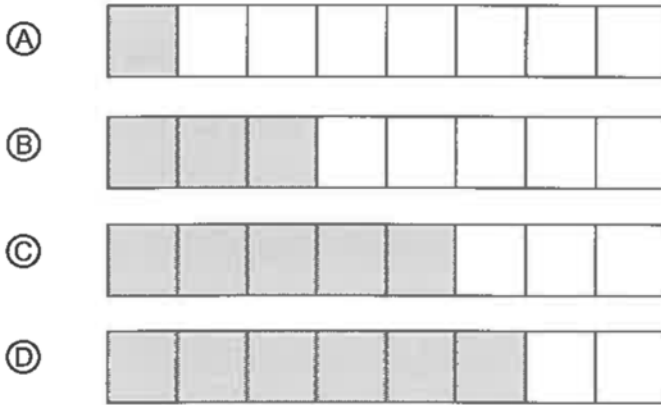


Hayley placed 5 of the bookmarks end to end. Draw a point on the number line below to represent the total length of the 5 bookmarks. Label the point **b**.



Fractions sums and differences

F. Which diagram represents the sum of $\frac{1}{4}$ and $\frac{1}{8}$?



G. A recipe for pancakes requires $2\frac{2}{3}$ cups of flour. Donna only has $1\frac{1}{2}$ cups of flour. How many more cups of flour does Donna need?

H. The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce.

On Tuesday the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Fraction products

I. Select **all** of the expressions below that are equal to $\frac{2}{3}$

$\frac{1}{3} \times \frac{1}{3}$

$\frac{1}{6} + \frac{1}{6}$

$\frac{1}{3} + \frac{1}{3}$

$\frac{1}{6} \times \frac{1}{6}$

$3 - \frac{1}{3}$

$\frac{5}{12} + \frac{3}{12}$

J. Jason makes aprons. The shaded part below represents the fraction of a yard of fabric he uses for each apron.



How many yards of fabric, in all, will Jason need to make 14 aprons?

K. Ellen multiplies the number 3 by a fraction. The result is a number greater than 3. Which of these could be the fraction?

a. $1\frac{1}{4}$

b. $\frac{8}{9}$

c. $\frac{1}{6}$

d. $\frac{1}{2}$

L. Bettina spent \$75 on 5 shirts that each cost the same price. Three of the shirts were red. Which expression represents the total cost of the red shirts?

a. $75 \times \frac{3}{5}$

b. $75 \times \frac{5}{3}$

c. $\frac{75}{5} \times \frac{1}{3}$

d. $\frac{75}{3} \times \frac{1}{5}$

Fraction quotients

M. The diagram below shows the length of a piece of ribbon.

$$\frac{12}{100} \text{ meter}$$



Victoria divides the ribbon into 4 equal pieces. What is the length of each piece of ribbon?

- a. $\frac{2}{25}$ meter b. $\frac{3}{25}$ meter c. $\frac{12}{25}$ meter d. $\frac{3}{100}$ meter

N. Shade the model below to show $1\frac{2}{5}$.



Use the model to find $1\frac{2}{5} \div 2$. Explain how you found your answer.

O. A board is 3 m. long. It is cut in pieces of $\frac{3}{4}$ m. How many pieces of board are cut? (Show your work)

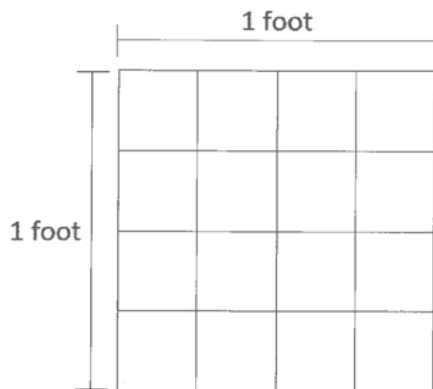
P. Maddy had a piece of ribbon that was $3\frac{1}{2}$ yards long. She used this ribbon to make bows. Each bow was made from a piece of ribbon that was $\frac{3}{4}$ yard long. This situation can be represented by the equation

$3\frac{1}{2} \div \frac{3}{4} = 4\frac{2}{3}$. Which statement **best** describes what the quotient $4\frac{2}{3}$ represents in the situation above?

- a. Maddy had bows that were each $4\frac{2}{3}$ yards long
- b. Maddy had $4\frac{2}{3}$ yards of ribbon left after making the bows.
- c. Maddy made 4 bows from the piece of ribbon and had $\frac{2}{3}$ of a yard left.
- d. Maddy made 4 bows from the piece of ribbon and had enough left for $\frac{2}{3}$ of a bow.

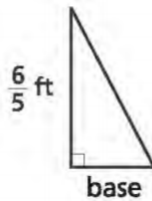
Fractions and areas

Q. Candice has a pointing canvas that is $\frac{3}{4}$ foot long and $\frac{3}{4}$ foot wide. What is the area of the canvas? Shade the diagram below to find the area of the canvas, and write your answer as a number of square feet.



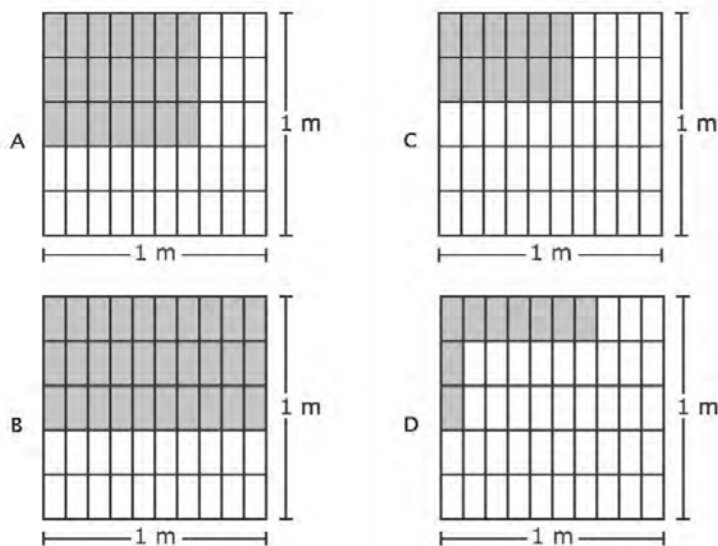
R. The area of a rectangular tile is $\frac{1}{2}$ square feet. How wide is the rectangular tile if its length is $\frac{3}{4}$ ft?

S. The area of the triangle below is $\frac{2}{5}$ square foot.



What is the length, in feet, of the base of the triangle?

T. Which model shows one way to determine the area of a rectangle that is $\frac{7}{10}$ meter long and $\frac{3}{5}$ meter wide?



Ratios part 1

U. Samantha found bottles of water and soda in the basement. The ratio of bottles of water to all bottles is 1:3. Which of these is a possible number of bottles of water and soda in the basement?

- a. 10 bottles of water, 30 bottles of soda
- b. 15 bottles of water, 5 bottles of soda
- c. 10 bottles of water, 20 bottles of soda
- d. 10 bottles of water, 5 bottles of soda.

V. What is the ratio of dogs to all animals in the picture below?



- a. 4:5
- b. 2:1
- c. 1:2
- d. 1:5

W. What is the ratio of glasses to bottles in the picture below?

- A** 3 to 1
- B** 3 to 2
- C** 1 to 2
- D** 2 to 1



Ratios part 2:

X. Lira bought 5 lbs of oranges for \$18.75. What was the price of oranges per pound?

Y. Fill in the missing number in the statement below:

75 students in _____ classrooms = 25 students per classroom

Z. Fill in the missing number in the statement below:

_____ cherries per bowl = 176 cherries in 8 bowls.

AA. To feed his plants, Logan creates a mixture that requires $\frac{3}{8}$ cup of plant food for every gallon of water. If

he uses $10\frac{1}{2}$ gallons of water, what is the total amount of plant food he needs?

Ratios part 3:

AB. Out of 9 animals at the local zoo, 2 are birds. How many birds are at the zoo if the total number of animals is 81?

AC. The ratio of the quantities of sugar and flour needed to bake a cake is 2:5. What is the quantity of sugar needed for a cake, if 750 grams of flour are used to bake it?

AD. The table below shows different possibilities for the number of games a team would need to win to maintain a certain percentage of wins:

**POSSIBLE BASEBALL
GAMES WON**

Number of Games Won	Number of Games Played
6	10
24	40
36	60
42	70

Which ratio of the number of games won to the number of games played could also be included in the table?

- a. 18:20 b. 20:30 c. 18:30 d. 50:30

AE. Hannah sold 48 flowers in 3 hours at the farmer’s market. If she continues to sell at that rate, how many flowers will she sell in the next 2 hours?

AF. A scientist studied the migration patterns of two types of whales:

- The humpback whales travelled 2,240 miles in 28 days
- The gray whales travelled 2,368 miles in 32 days.

If the humpback whales had travelled at the same rate for 32 days, how many more miles would they have travelled than the gray whales?

Problems taken from the following sources:

EngageNY released test items: <https://www.engageny.org/resource/released-2017-3-8-ela-and-mathematics-state-test-questions>

Free test online 6th grade practice: http://www.free-test-online.com/ccss/grade6/grade6_ccss.html

Wisconsin test prep, Forward Exam Practice books, grades 3-5. 2015 Test Master Press Wisconsin.

6th grade Wisconsin Math Test Prep. 2015 Teachers’ Treasures Inc.